



Voice Interoperability Plan for Emergency Responders

A CJIN Module

Background

- Original CJIN Voice Trunking Network (VTN)
- Recommended in the 1995 CJIN Legislative Study by Price Waterhouse
- Re-Validated in CJIN re-fresh study in 2002 by Gartner Group

Myths and Misconceptions

- 800 MHz won't work in the mountains
 - Colorado
 - Utah
- Only a new radio system for the Highway Patrol
 - A lot less headaches
 - A lot less money

High Profile Examples Lack of Interoperability

- Air Crash at RDU 1994
- Murrah Building, Oklahoma City 1995
- Hurricane Fran 1996
- Hurricane Floyd 1999
- Columbine High School 1999
- Twin Towers, New York City 2001

Voice Interoperability Plan for Emergency Responders

VIPER



Tactical Solution

- Temporary solution for interoperable emergency communications
- 17 remote fixed site communications gateways
- Controlled at SHP Communications Centers
- Pre-equipped with radios for locals

Tactical Solution Issues

- Memorandums of Agreement between Agencies
- Operational Plans
 - Plain English (no 10 codes)
 - Who authorizes interconnect
 - Disconnect procedures
- System Capacity impact

Mobile Solution Tactical

- 3 mobile interoperable communications platforms to eliminate diminished capacity for extended periods
- Pre-positioned across the state
- Long term incidents / events
 - More than 6 to 8 hours
- Enhanced unit to support 800 MHz systems and operate as a standalone communications system
- Large special events

What will the Tactical Solution provide

- Provide temporary interoperable communications with other public safety agencies on-demand during emergencies.
- Provide interoperable communications with those agencies from surrounding jurisdictions that may come to assist you.
- **Mobile solution** can provide temporary communications system if there is a catastrophic system failure state or local.

Strategic Solution

- Statewide 800 MHz trunked radio system available for **all emergency responders**.
- APCO 25 compliant
- Individual talk groups for agencies
- Mutual aid talk groups
- VIPER is the infrastructure
 - 95% in-street portable coverage
- Agencies responsible for subscriber units
 - Subscriber units from multiple manufacturers
- Governance Committee with representatives from participating local agencies

What will the Strategic Solution provide?

- Provide locals with a state-of-the-art, robust APCO 25 CAI compliant communications system
- Multi manufacturer radios – the option to buy from multiple vendors.
- Autonomous talk groups – agency specific talk groups.
- Coverage redundancy – if a transmitter fails in your area you benefit from infrastructure in surrounding areas.

What will the Strategic Solution provide?

- Interoperable communications daily with a single radio – improved information sharing, quicker response times when resources are needed, enhanced safety for emergency responders, better service to our citizens
- Statewide roaming - ability to respond to emergencies outside normal jurisdictions
- Mutual aid talk groups

Industry Partnerships

- Public Partners
 - 39 sites identified that may be re-useable for the VIPER Strategic Solution from Progress Energy.
 - Duke
 - Dominion Power
 - Time Warner Cable
 - AAA Towers
- Hopefully we can encourage other utility companies to participate.

VIPER Costs

• Intellirepeaters	\$52,185,000
• Microwave	\$34,085,000
• Zone Controllers	\$ 7,200,000
• Antennas & Dish Install	\$ 6,850,000
• Generators & UPS	\$ 7,125,000
• Towers	\$32,742,460
• Land & Permits	\$ 6,845,000
• Network Building	\$ 6,500,000
• Risk Mitigation	\$20,000,000
• Equipment	\$ 4,396,671
• Personnel	\$ 4,581,786
• Vehicles	\$ 1,600,000

How'd we get these figures

- Construction Costs
- Equipment Costs
- Personnel Costs
- Recurring Costs

VIPER Recurring Costs

- Personnel
- Training
- Software and hardware maintenance
- Emergency contingency costs
- Utility bills & site maintenance
- Tools and equipment
- Vehicles
- Phased with implementation

VIPER funding to date

- Law Enforcement Terrorism Prevention Program grants \$8,829,032
- State Homeland Security Grants \$21,463,757
- Urban Area Strategic Initiative Grant (Charlotte) \$1,045,000
- NC Legislature \$500,000
- Totaling \$31,327,789

VIPER Summary

- 238 transmitter sites
 - 120 will require construction of a new tower
 - 59 of these will be rebuilding existing towers
 - 61 will require brand new construction sites
 - 118 towers can be reused
- Requires 80 support personnel
 - \$4,581,706 in annual salaries
 - \$1,600,000 in Vehicles
 - \$4.4m in hand tools and technical equipment

The image features a dark blue background with three large, overlapping circles. Each circle contains several concentric rings of varying radii, creating a ripple effect. The circles are positioned in a triangular arrangement, with one at the top left, one at the top right, and one at the bottom center. The text "Thank You" is centered in the middle of the composition.

Thank You